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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)

COMMENTS OF QADO ENERGY, INC. ON QUESTIONS FOR RULEMAKING ON RULES FOR DEVELOPMENT OF DISTRIBUTION RESOURCE PLANS

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Question #1:
What specific criteria should the Commission consider to guide the IOUs' development of DRPs, including what characteristics, requirements and specifications are necessary to enable a distribution grid that is at once reliable, safe, resilient, cost-efficient, open to distributed energy resources, and enables the achievement of California's energy and climate goals?

By leveraging the vast processing and computing power of cloud-based systems, utilities will be able to bring distribution planning and cost awareness down to a near real-time exercise instead of the multi-month effort it is today. This change in time scale would enable a sea change to occur in both the IOU planning and regulatory proceeding processes. For example, the ability to perform near real-time modeling would enable feedback-gathering workshops to be closely followed by response workshops that present fact-based results articulating DER scenarios and the estimated costs of the mitigation strategies defined by the IOUs to ensure reliability.

A cost-effective, high-performance computing software solution is possible through cloud computing technology coupled with the new advancements in distribution grid modeling and simulation, and IEC smart grid data standardization. We propose the IOUs be provided cost recovery for their investment in this type of software solution which manages data in the non-proprietary IEC CIM open data file format and models, simulates, visualizes and generates cost estimates of the prescribed DER, storage, inverter and demand response options necessary to

meet California's grid evolution and climate goals. This type of investment will ultimately save all utility customers money both short and long term.

To ensure process standardization, data standardization and a common language for communicating results, firstly, the software solution should construct feeder models automatically from GIS, data historians, the project application and other databases and store them in the IEC common information model format developed for the "smart grid". This will enable timely completion of the impact evaluations and cost estimates by removing one of the biggest utility hurdles. This standardization will also enable the use of a common language and non-proprietary open file formats for information sharing. Secondly, the solution should use scripted analysis and evaluation methods. This feature also enables timely completion, but more importantly, it promotes consistency in the approach and results of each impact study and cost estimate. Lastly, the modeling and analytics technologies should perform quasi-static powerflow analysis over any time series, use local weather data, and calculate the costs of the mitigation strategies that will ensure system reliability. When multiple mitigation options and their cost estimates are identified by the software, fact based decisions are possible.

The capabilities outlined above are commercially available today. However, depending upon the granularity of the data and the time period selected for analysis, the most advanced utilities today take 6 to 9 months to complete DRP analysis. Using the software solution, comprehensive DRP analysis could be accomplished within days. Today, this software solution is starting to be used by utilities to streamline interconnection impact studies, which are a subset of the larger DRP process.

It is also worth noting that other industries such as financial services have recently deployed this type of platform and methodology to analyze financial asset risk and assess how that risk changes as different assets with different attributes are combined. The interactions between complex systems are not necessarily clear or direct, so the ability to model and test multiple scenarios provides a cost-effective way to assess new approaches and identify potential pitfalls while minimizing up-front commitment, thereby promoting creativity and innovation.

Respectfully submitted,

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